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The Performance of Delinquent Boys on the Furfey Developmental Age Scale

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THE PERFORMANCE OF DELINQUENT BOYS ON THE
FURFEX DEVELOPMENTAL AGE SCALE

by

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A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment
of the Requirements for the Degree
of Master of Arts

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VITA

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CHAPTER I

INTRODUCTION

This investigation was attempted in order to measure the interest levels of delinquent boys, as established by the Furfey Developmental Age Scale. Any study of transition from a child's interests and responsibilities to adult interests and responsibilities would be valuable and helpful in understanding and dealing with delinquents and, more especially, those who are court wards. The more complete the analysis of the progress in maturation, the more able and effectual those interested in delinquents can be in penetrating the many divergent forces of anti-social behavior. Although recognizing that there are many factors associated with delinquency, the writer was interested in investigating more thoroughly the avenue of interests, especially the degree of maturity of interests, as compared with the interests of so-called non-delinquents or an unselected group.

What is meant by Delinquency? In a broad sense the term would include all those traits and behavior which would differentiate the juvenile offender from a non-delinquent on the

one hand, and from a criminal on the other. The juvenile court laws of the States do not agree in their legal definitions of what constitutes a delinquent act. It may mean "any act, course of conduct, or situation which might be brought before a court and adjudicated."¹

Since the meaning of delinquency differs in different States, mainly because some classify as delinquency that which others consider as dependency or neglect, it is best for our purpose to go to the statutes of various States for its legal definition. A delinquent is commonly defined as one under a certain year of age who

(1) violates a State law or local ordinance (offenses which, if committed by an adult, are punishable by death or life imprisonment are often excepted); (2) is wayward, incorrigible, or habitually disobedient; (3) associates with thieves, criminals, prostitutes, vagrants, or vicious persons; (4) is growing up in idleness or crime; (5) knowingly visits a saloon, poolroom, billiard room, or gambling place; (6) knowingly visits a house of ill-fame; (7) wanders about streets at night; (8) wanders about railroad yards, jumps on moving trains, or enters any car or engine without authority; (9) habitually uses or writes vile, indecent, or obscene language; (10) absents himself from home without just cause or without the consent of parent or guardian; (11) is immoral or indecent; or (12) is a habitual truant.²

This definition is sufficiently comprehensive to include any

1 Paul W. Tappan, Juvenile Delinquency, New York, 1949, 30.

2 Herbert H. Lou, Juvenile Courts in the United States, London: Oxford University Press, 1927, 53-54.

child who conducts himself in such a way as to injure or endanger the physical health or the morals of himself or others.

Because the population used for this thesis is representative of about sixteen different counties of the state of California, it might be of interest to note that the State law does not define delinquency. California enumerates the acts or conditions which constitute juvenile delinquency as defined in the laws of most of the States, quoted above; and then the law further provides that a child who comes within this description is or may be adjudged a "ward of the court."

The superior courts, which function as the juvenile courts in California, have exclusive jurisdiction until the age of eighteen regardless of the offense and concurrent jurisdiction over minors from the age of eighteen to twenty-one. In other words, delinquency proceedings, strictly speaking, are taken up to the age of eighteen only; while criminal proceedings are taken in case of most offenses of minors between eighteen and twenty-one. Thus the juvenile courts of California may actually retain jurisdiction until the person reaches the age of twenty-one. If the offender is between nineteen and twenty-one when committed, jurisdiction must be retained for two years. However, capital offenses committed by minors between eighteen and twenty-one, or any attempt to commit capital offenses, are excepted from juvenile court jurisdiction.

In California, as in many other States, the initiation of the proceedings is based upon chancery jurisdiction. This simply means that the court is interested in the individual's general welfare and protection rather than in his punishment. "The state in this country has taken the place of the crown as the parens patriae of all minors."³ The court is intent on the child's salvation, not his punishment. As Judge C. L. Brown said:

The fundamental purpose of juvenile-court procedure in delinquency cases is not to determine whether the child has committed a specific offense for which punishment must be inflicted, but to discover whether he is a subject for special protection, care, and guardianship by the community in the same degree as the child who is neglected or homeless.⁴

It is provided that before the filing of a petition, an investigation should be made to determine whether a chancery or formal jurisdiction should be taken of the case. The constitutional right to trial by jury does not apply to delinquency cases in the juvenile courts; though under chancery procedure the judge has the right to call a jury if he thinks such a measure is discreet. Also, public council for the prevention of juvenile delinquency may be established by the juvenile court and the probation department; and they may cooperate with said council.

3 Ibid., 4.

4 Ibid., 4.

The intention of the court is to do something constructive. No behavior is declared delinquent until the court has found the facts of delinquency actually to exist. In his Psychology of Adolescent Development, Kuhlen⁵ mentions that although roughly ten per cent of all school age children become delinquent before they reach maturity, only about one per cent actually become delinquent in the legal sense because many of the offenders are never referred to the courts.

This study will be worth while if the knowledge of the interests of various age groups of delinquent boys will lead to a more positive concept of their problems. How can we further assist them in attaining the best adjustment of which they are capable? A study of this nature may be one measure that will aid in rendering services to the child and in curtailing, to a degree, the delinquency problem.

5 Raymond G. Kuhlen, The Psychology of Adolescent Development, New York: Harper & Brothers, 1952, 357.

CHAPTER II

RELATED LITERATURE

An extended survey of published literature over the past twenty years has revealed no study closely related to the proposed subject other than those by Father Furfey himself. Some of these studies are detailed below. A fuller discussion of the Developmental Age Scale is reserved for Chapter III.

In an early work Furfey started with the generally accepted assumption that physiological changes at the time of puberty cause psychological changes associated with the period of adolescence, and he made some effort to test this assumption by scientific methods. In 1926, he published a graph¹ which depicted an interesting parallelism between the age of puberty as established from Crampton's large sample and the ages of boys leaving the Boy Scout troops with which Furfey was working at the time. The inference was that the loss of interest in Scouts was due to puberty. In 1927, Lehman² found a like parallelism

1 Paul Hanley Furfey, The Gang Age, New York: Macmillan, 1926, 13.

2 H. B. Lehman, "A study of doll play in relation to the onset of pubescence," Journal of Genetic Psychology, 34, 1927, 72-76.

in girls between the loss of interest in playing with dolls and the age of puberty. Since then similar studies have been made to find the effect of puberty on general play interests and on vocational choices.

Leal³ made a study using a slightly different approach. She used 1,876 boys and 2,294 girls, in grades four to twelve, from the public schools of New Britain, Connecticut. These subjects were rated as to physiological maturity on a five point scale by two physicians. They were also rated as to seventeen personality traits by their grade teachers. From these tables, Leal attempted to select the traits associated with physiological adolescence.

None of these studies succeeded in eliminating the effects of chronological age. None employed a satisfactory measure of maturity of behavior, having been based on single traits as reported on a questionnaire, or on an unstandardized rating scale. Neither validity nor reliability was determined. In these cases relationship was merely estimated by inspection of graphs or tables, and no refined statistical methods were employed.

3 M. A. Leal, Physiological Maturity in Relation to Certain Characteristics of Boys and Girls, Pennsylvania: Philadelphia University, 1929, 118.

In the investigation made by Rauth and Furfey⁴ an attempt was made to avoid these defects. Eighty-four subjects from institutions for dependent children were employed. Of these, 33 were thirteen years of age, 32 were fourteen, and 19 were fifteen years old. To eliminate the influence of chronological age each group was studied separately. The maturity of behavior was measured by the revised scale for Developmental Age which had just been recently standardized. It is reported to have an exceptionally high reliability⁵ at the ages of thirteen, fourteen, and fifteen. It should therefore give a good estimate of the maturity of the subjects. Physiological maturity was estimated by Crampton's norms, which was considered the best available way of measuring puberty in boys. Using biserial correlation the relationship between puberty and maturity of behavior or developmental age was measured by the score on the entire scale. It varied from $-.16$ at the age of thirteen to a plus $.79$ at the age of fifteen. The extreme difference may be due to chance; or perhaps to the fact that the fifteen-year-olds' conduct had been more affected by a longer time of pubescence.

The conclusions drawn from this study were that,

4 Since the Furfey Developmental Age Scale is an instrument used in the present study, it will be explained in the succeeding chapter.

5 See Chapter III, 19.

holding chronological age constant, there seemed to be a small positive relationship between the physiological maturity as measured by the Crampton norms and the maturity of behavior as measured by the Developmental Age Scale.⁶

In 1932, C. Thomas⁷ reports a comparison of interests of delinquents and non-delinquent boys in form of a questionnaire study. This questionnaire included items concerning attendance at movies, reading habits, and general recreational interests. The questions were answered by 154 public school boys and 101 boys in a detention home. Although crime news held a somewhat greater interest for the delinquent boys than for the non-delinquent boys, in both groups sports news had the greatest preference. The delinquent group frequented theatres more and used the public libraries less than the non-delinquent group. In general, his findings revealed the fact that there was not a noticeable dissimilarity in their preferences as to the kind of radio programs, athletic and recreational interests.

Robert P. Daniel⁸ in the same year reported an attempt

6 Rauth, J. E., and Furfey, Paul Hanley, "Developmental Age and Adolescence," Journal of Social Psychology, III, 1932, 469-71.

7 Coronal Thomas, "A Comparison of Interests of Delinquents and Non-Delinquent Boys," Journal of Juvenile Research, XVI, 1932, 310-318.

8 Robert P. Daniel, A Psychological Study of Delinquent and Non-Delinquent Negro Boys, New York, 1932.

to evaluate the concomitance of various personality factors with delinquency among Negro boys. The following objective measures were used:

The Haggerty Intelligence Examination, Delta II, to test for mental ability;

Mathews Questionnaire to measure neurotic instability;

Character Sketches, Part I and II which measured different aspects of personality, such as feeling of inferiority, extroversion, habit pattern and neurotic tendencies;

Sweets' Personal Attitudes Test for Younger Boys to measure personal attitudes, such as self-criticism, criticism of others, inferiority and superiority feelings;

Ethical Judgment Test to measure moral knowledge and correct choices;

Maller Test of Sports and Hobbies, Form A-X, which is a test of trustworthiness.

From his study, the author concluded that the greatest difference between non-problem boys and delinquent boys was revealed on the conduct test of trustworthiness. Throughout the study the analysis of the data showed that in the things they do and the way they feel the delinquents differed from the non-delinquents in degree rather than in kind. The chronological ages of the subjects used ranged from nine to sixteen years inclusive.

E. R. Bartlett, and D. B. Harris,⁹ in 1936, administered a large battery of tests to delinquent boys in Indiana

⁹ E. R. Bartlett and D. B. Harris, "Personality Factors in Delinquency," School and Society, XLIII, 1936, 653-656.

Boys' School, and to a control group of boys (unselected) in Greencastle High School. After examining the personal and social background data of both groups, and studying the test results, they concluded that there was much similarity between the delinquent and non-delinquent group. There was no notable difference in mental ability, though a larger number of older pupils with limited general intelligence were found in the delinquent group. They found no significant difference in socio-economic status, general health, adjustment to life in groups other than to family and school, general range of interests, and knowledge of accepted moral practices and religious attitudes. However, delinquents tended to show greater emotional instability, more difficulty in maintaining satisfactory home, family, and school relationships, more participation in undesirable leisure-time activity, and a greater inclination to cheat on classroom tests. The delinquents were also more familiar with biblical and religious terms. This may have been due to Sunday school instructions. When the author studied this phase further, he found that neither the religious knowledge nor their attitudes toward this knowledge were positively related to moral behavior. The study was a good cross-sectional approach in the interpretation of the behavior of delinquent boys, but the results pointed out the need for further supplementary developmental studies.

In 1937, Durea¹⁰ made an investigation of the role played by emotions in delinquency. He compared the emotional maturity of delinquents with the norms which have been computed for non-delinquents to ascertain the relationship of emotional maturity to the extent or degree of juvenile delinquency. Three hundred sixteen delinquent boys between the ages of fourteen and seventeen were employed for this study. Ratings of emotional maturity were obtained by means of the Pressey Interest-Attitude Tests. Each received five separate ratings for emotional development. The summarized findings noted that scores based on the entire test, as well as scores on the separate tests, indicated the emotional immaturity of delinquents. Five general conclusions were made: (1) Juvenile delinquents are emotionally retarded as measured both by total scores on the Interest-Attitude Tests and scores of separate tests. (2) The extent of emotional retardation varies somewhat with life age. (3) The extent of emotional retardation differs on the various tests, being greatest in relation to Test IV (Kinds of persons liked or admired), and the least in relation to Test II (Anxieties, fears, worries). (4) An insignificant relationship was found to exist between emotional age and degree of delinquent behavior. (5)

¹⁰ Mervin A. Durea, "Emotional Maturity of Juvenile Delinquents," Journal of Abnormal and Social Psychology, XXXI, 1937, 472-481.

The maturation of emotional behavior is as significant as intelligence or other variables in understanding the personality of the juvenile delinquent.

Dale B. Harris,¹¹ in 1943, studied the play activities of delinquent and non-delinquent boys by means of a play activities inventory. Certain leisure time investments are apparently closely associated with the boy's efforts to have fun. A check list of play activities was devised and administered to a group of delinquent boys living in an institution and also to an unselected group of boys. The list consisted of one hundred twenty-five items, and the boys' ages ranged from eleven to nineteen. In checking the list, the boys were asked to indicate the extent of interest in each activity by checking "lot," "some," or "never." The scores were based on differential responses of contrasting groups, the reliability of which was approximately eighty-nine per cent for odd versus even items, and eighty per cent for a repetition of the measures after eight weeks. The same check list was given to other groups and data were accumulated in order to validate the original standardization. A study of the separate items indicated that those items describing activities worthy of censure were more successful in pointing out

11 Dale B. Harris, "Relationships Among Play Interests and Delinquency in Boys," American Journal of Orthopsychiatry, XIII, 1943, 631-638.

delinquency" than the items of a more constructive nature. One whose play involved twenty to twenty-five "delinquent" items and a few desirable items was considered closer to delinquency, as legally defined, than one whose play experiences included only five or ten such undesirable items. It was concluded that often a pattern of behavior rather than an accumulation of undesirable conduct characterized the delinquent. The "canalization" theory of behavior development was suggested as a useful concept to explain the interests and so-called "careers" of delinquents. The author concludes that play interests are revealing factors in delinquency, but also that play interests constitute only one portion of his life. Consequently, a direct attack on his play interests as a cure-all measure would be begging the question. There is no one panacea, since individuals engaged in such non-acceptable forms of activities have been restricted in many ways and exhibit a variety of limitations.

CHAPTER III

PROCEDURE AND DESCRIPTION OF MATERIALS

Since the aim of the present study was to get a measurement of the maturation of interests of delinquent boys, the subjects used were sixty-five delinquent boys ranging from twelve years through sixteen years of age, with a mean chronological age of fourteen years and five months. This study was made at the Archbishop Hanna Center for Boys, Sonoma, California, where the writer has been on the staff for the past three years. It is her conviction that the child who becomes a delinquent is usually the child who has had a "bad break." To understand the delinquent and to work successfully with him, it is desirable to know all one can about him. He must be studied as a totality, in his physical make-up, his spiritual, emotional, and intellectual life, his family background and neighborhood, his interests and activities. And it is especially important to know how he feels about things, to know what makes him the kind of individual that he is, and what prompts him to the actions that he does. Perhaps, then one can find why life has become so meaningless to him that he turns to revolution.

In almost all of the applications made for admittance

to Archbishop Hanna Center, the boy's record indicates many adverse factors in his home background. Several of the following may be found in any one application: a broken home, divorce, desertion; demoralizing conditions in the home, drunkenness, licentiousness; lack of parental responsibility, attention and affection; deteriorated neighborhoods; alcoholism in one or both parents; antipathies and jealousies. The boy is often discriminated against by his parents and rejected by either one or both; he is deprived of normal pleasures and comforts to which every child claims the right. His total environment does not favor adequate social adjustment, nor can anyone reasonably expect him unaided to cope with it.

The average educational retardation found in the applicant is about two to three years. This is due, in large, to irregular school attendance and truancy from school rather than to lack of mental ability.

Very few of the boys have physical health deficiencies or deformities other than malnutrition which is not known to have a direct bearing on delinquency.

The proportion of emotionally disturbed boys is very high, and most of them might properly be classified as being emotionally unstable and immature individuals. Durea¹ verifies

¹ Mervin A. Durea, "The Emotional Maturity of Juvenile Delinquents," Journal of Abnormal and Social Psychology, 31; Jan. 1937, 478.

this when he says, "Delinquents are 'emotionally retarded.'"

. . . . They give evidence of having lived more turbulent lives; they are often hyperactive and restless and frequently suffer from severe personality deviations." Healy and Bronner² also found that 91 per cent of the delinquents of the 105 used in a study were emotionally disturbed, unhappy, and socially mal-adjusted.

Although these delinquent boys have records of all types of anti-social behavior, including truancy, incorrigibility, thefts, serious aggression, sex misconduct, larceny, burglary, and all sorts of self-indulgent actions, such overt behavior appears to the writer to be merely symptomatic. They do not act out of sheer peevishness or perversion. The reasons for their conduct may be unconscious or inarticulate, but the behavior is purposeful to them. It is an attempt to satisfy inner urges, fundamental emotional needs, intellectual and spiritual desires, and environmental pressures. It is an attempt to achieve, to obtain success and recognition of a kind, and to get group approval and acceptance. The delinquent appears to believe that the adult world is against him; therefore he must solve his own problem. His emotional needs are strong; his

2 Wm. Healy and Augustus F. Bronner, New Lights on Delinquency and Its Treatment, New Haven, Connecticut: Yale University Press, 1936, 226.

desire to lead is sincere. His actions are dominated by his emotions, moods, likes and dislikes, and by a variety of irrational impulses. In his imagined superiority and with a glib dexterity, he doctors up his inconsistencies until they appear to him to be solved.

With this brief description of the population we pass to the materials used in the investigation. These were two separate sets of scores obtained on different tasks from the sixty-five delinquent boys. The developmental ratings were secured by the use of the Furfey Scale for the Developmental Age (revised form), which consists of 196 items in six different sub-tests. The intelligence score was derived from the Revised Stanford-Binet Scale, Form L.

The Furfey Developmental Age Scale: The Furfey Scale is an attempt to set up a quantitative and relatively accurate method of measuring the developmental age of boys. The author defines developmental age as "the progressively increasing and non-intellectual maturity of general behavior which shows itself in the growing child's play preferences, in his fantasy life, in his choice of books and movies, in his ambitions, and in general, in his whole behavior type."³ To facilitate the standardization

³ Paul H. Furfey, A Revised Scale for Measuring Developmental Age in Boys, Chicago: Steelting Company, 1931, 102, reprinted from Child Development II, No. 2, June, 1931, 102-114.

of a developmental age scale on a large sample, a pencil and paper test was devised. The original scale of four tests was lengthened to six tests. These deal respectively with the following areas: recreational interests, "Things to do"; vocational interests, "Things to Be When You Grow Up"; choice of reading material, "Books to Read"; preference of possessions, "Things to Have"; and two more, "Things to See"; and "Things to Think About."

The reliability of the revised scale determined by the split half method for each age level ranged from .85 at the eight-year level, to .96 at the seventeen-year level. It is of interest to note that the developmental age does not increase after the sixteenth year of age. In this, the developmental age bears a close resemblance to the Stanford-Binet mental age. The reliability of the test, and the developmental age equivalents are computed and based on a population of 953 subjects. The scores increased regularly from the ages of eight to twelve, and more sharply from twelve through sixteen.⁴

In an earlier study using his four-test scale, Furfey⁵ sought to find what factors might be responsible for the devel-

4 Ibid., 102-114.

5 Paul H. Furfey, "A Scale for Measuring Developmental Age," Mental Hygiene, XIV, 1930, 129-136.

opmental age. He therefore used an experimental group of about sixty-seven boys and established the coefficients of correlation of the developmental age with mental age, with weight, and with standing height. The Haggerty Intelligence examination was used as a measure for the mental age. With the CA factor kept constant, the following correlations were established: with mental age, plus .23; with weight, plus .22; with height, plus .16. From these figures, Furfey concluded that some physical factors entered into the developmental age. He concluded that within a group of boys of a certain age it would be more likely to find the larger boys enjoying the same type of activity than to find the bright boys doing so. In general, physical development and the development of personality keep somewhat abreast, especially during the adolescent years.

Obviously when one has data on chronological age and developmental age, it is possible to express the ratio as a developmental age quotient when this seems serviceable and desirable.

Thus the concept of the developmental age introduces quantitative methods into a field in which research had been purely descriptive, and since it is associated with the development of the whole personality, it ought to be useful to clinicians in the study of children, as well as to the psychologist, who in his research continues to investigate the problems con-

fronting childhood and adolescence.⁶

In the present study, the writer administered the Revised Purfey Scale to the delinquent boys in small groups. The assignment to a particular group was determined by consideration of various factors, such as reading disability, chronological age, emotionality, or physical development. The author proceeded in this way in order to avoid situations in which embarrassment, insincerity, or the emergence of any disciplinary problem might arise. The subjects were instructed to choose one of each of the paired alternatives. If the first item of the pair was his choice, he was asked to place a "one" in the parentheses at the right-hand column. If he preferred the second item in the pair, he was asked to place the number "two" in the parentheses. If a child hesitated to select either of the alternatives, he was encouraged to choose the one he would take if he had to make a choice. It was the experience of the tester that, in general, the boys entered into the testing situations with real enthusiasm and interest, and that the responses were sincere. In one instance, it was evident that the subject was very disturbed and simply alternated the numbers in his responses. Since he disregarded any incentive to correct his attitude toward the testing situation, his test was eliminated from the group.

6 Ibid., 136.

The second tool was the Revised Stanford Binet Scale.

Each boy who took the Furfey Developmental Age Scale was also given the Revised Stanford Binet Scale, Form L. This was administered according to standardized procedures. This individual psychological test was selected because it is considered one of the most reliable individual intelligence tests, and also because it offers a variety of interests and situations, and provides a rich sampling of abilities. This revision of the earlier Stanford-Binet scale developed by Terman, was made in 1937 by Terman and Merrill, and was standardized on approximately 3000 American-born subjects, including about two hundred cases, one hundred boys and one hundred girls, at each age level from six to fourteen, and smaller groups on the two extremes. It is probably the most widely known and generally used individual test of general intelligence. It may be good to recall to mind that the mental age as derived from the Stanford-Binet may differ from the scores of tests which rate other abilities such as musical, mechanical, etc., since it attempts to evaluate only the general level of mental maturity, and from that, the rate of mental development. Not all one's abilities can be tested by any one test. A further characteristic of the mental age concept is the fact that increment in mental growth apparently decreases with age, and by the age of sixteen the yearly gains are negligible. Therefore in computing the intelligence quotient from the

Stanford-Binet, the chronological age after sixteen is disregarded.

For the present group the results of the Stanford-Binet intelligence scale ranged from an intelligence quotient of seventy-eight to one of 130. The intelligence quotient values were calculated according to Terman's graduated scale as published in *Measuring Intelligence* by Terman and Merrill.⁷ This table gives the adjusted intelligence quotient values for subjects between the ages of thirteen and sixteen years.

An intelligence quotient is only a score and at best an indicator of the actual ability of the testee. Although the Stanford-Binet test is generally regarded as the most reliable and accurate, it must be realized that emotional disturbance at the time of any test often makes it impossible for the subject to perform at his normal level of ability. One single intelligence score may be far from a correct index of the individual's real potential. This was evidenced in three cases in the present study. Since there was a marked change in classroom behavior and general adjustment after an interval of two to three months, a retest was administered. By that time the boys' tensions and pressures had subsided and all three made gains ranging from

⁷ Lewis M. Terman and Maud A. Merrill, Measuring Intelligence, Chicago: Houghton Mifflin, 1937, Appendix.

twelve to twenty IQ points. These delinquent boys were tested at a critical period of their lives and were in many cases emotionally disturbed.

After the Furfey and the Stanford-Binet Scales had been administered to all subjects a work sheet was compiled presenting basic data and test scores for each subject. The subjects were ranked in order according to the scores in the Furfey Scale. This work sheet appears in Appendix I (p. 47). The separate rankings for each measure appear in Appendix II (p. 51). The detailed findings are presented in Chapter IV.

CHAPTER IV

THE PRESENTATION OF FINDINGS

Before we proceed to a detailed presentation of data, a summary of the various scores and ages of the experimental group will be considered. The chronological ages for the group of delinquent boys ranged from twelve through sixteen years. The present experimental sample does not have as wide a spread in chronological age as did Furfey's unselected standardizing group. The population used in Furfey's study ranged from eight through eighteen years of age.

To provide a simple unit in the following tables, all the age scores in years and months are converted into total months. This makes the measures of dispersion easier to follow. The mean chronological age of the group was 173 months, with a standard deviation of fifteen months and a range from one hundred and forty four to 203 months. There was a range of fifty-nine months between the youngest and the oldest subject. The range which occurred in the mental ages was much greater, ninety-six months. But the widest distribution is found in the developmental age scores, reaching a scatter of 104 months.

The itemized data on each of the sixty-five subjects,

i.e., the chronological age and the scores obtained on both scales, together with the sub-test scores of the Furfey scale, are presented in full in Appendix I.

These same data are presented in summary in Table I. It will be noted that the mean developmental age exceeds the mean chronological age by eight months and exceeds the average mental age by twenty months. The standard deviation indicates a rather large scatter around the mean, especially in the developmental age and the mental age. This would tempt one to conclude that a boy's chronological age is often an indication of what his interests are and what he likes to do. In studying the mean scores and the standard deviations in Table I, it becomes apparent that some of these boys probably do not have the mentality to cope with their physical maturity or to determine upon the choices of those activities which are considered better or of a more mature level.

TABLE I

SUMMARY OF AGES (IN MONTHS) AND SCORES OF 65 DELINQUENT BOYS ON THE FURFEY AND STANFORD-BINET SCALES

	CA	DA	MA	IQ
Mean	173	181	161	96.7
Standard Deviation	15	20.5	24.3	13.1
Range	144 - 203	107 - 211	114 - 210	78 - 130

This will become clearer when the several correlations between the different measures are presented. With both the chronological age and the developmental age above the mental age, one can begin to see one reason why these delinquent boys are apt to get into trouble.

When one breaks down the general data into the different age groups, the mean scores become more significant. In considering Table II (p. 28), it will be noted that the scores are not notably affected by differences of intelligence. It so happened that the boy with the lowest and the boy with the highest intelligence score fell into the same developmental age group, and both of them belonged in the chronological age group of twelve years. We observe also that from the thirteenth to the fifteenth year level the mean developmental age is consistently higher than the mean chronological age and the mean mental age. If one counts the separate raw scores in Appendix I, 47 boys, 72 per cent of the population of sixty-five, have a developmental age higher than the chronological age. Companionship may be a principal factor for this. It assumes an important role in life. Just as association can be a force for good, so it can also be a power for evil. Frequently delinquents associate with an older group engaged in various types of antisocial activities. Most delinquents "assemble on the streets but have no particular plan, rules, or leadership and are haphazardly thrown to-

gether."¹ Contacts are made with older and more aggressive individuals. The younger boys gain a sense of security from the more mature, and their interests and friendship tend to become solidified. "Success and experience are respected by the young disciples, and they make the most of their associations with their 'superiors'."² Delinquencies are seldom committed by one individual alone, but are generally the result of a group escapade.

TABLE II

MEAN SCORES (IN MONTHS) FOR CHRONOLOGICAL AGE GROUPS

Age Group	N	Mean			
		CA	DA	MA	IQ
12	10	149.8	163	140.1	93.3
13	15	161.2	171	154.6	96.8
14	16	174.2	185	167.6	99.8
15	16	184.1	191	164.6	94.0
16	8	196.3	196	181.1	100.3

1 William Healy and Augusta Bronner, Delinquents and Criminals, Their Making and Unmaking, New York: Macmillan Company, 1926, 179.

2 Martin H. Neumeyer, Juvenile Delinquency in Modern Society, New York: D. Van Nostrand Company, 1949, 150.

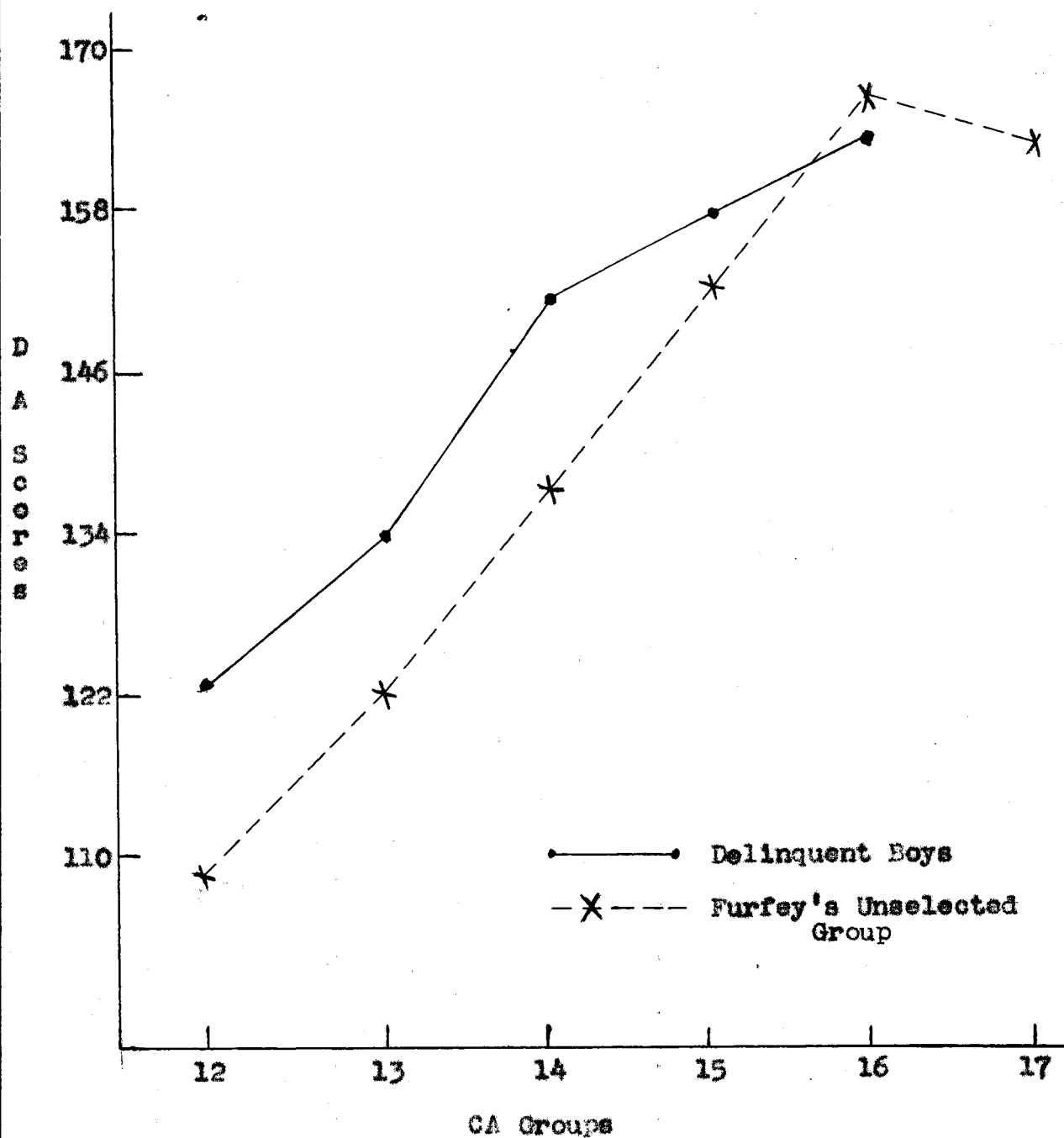


Figure 1

CHANGES IN MEAN DEVELOPMENTAL AGE SCORES FOR SUCCESSIVE
CHRONOLOGICAL AGE GROUPS FROM FURFEY AND THE
PRESENT STUDY

The preceding table showed the mean CA, DA, and MA in months. The raw DA scores for the Furfey scale are shown graphically in Figure I (p. 29) and are presented with their standard deviations in Table III (p. 32). In Furfey's graph,³ which shows the relationship between the DA scores, reproduced in part in Figure 1, and the CA for his standardizing group, a sharp increase in DA between the ages of twelve and sixteen years is noted. In the present experimental group there is a very marked increase from the age of thirteen to fourteen, and a more gradual increase from fourteen to sixteen years of age.

Within each age group there is a rather large spread in the DA scores. It is not clear whether this reduced acceleration beyond the fourteenth year level is due to the greater elapsed time after puberty age or to the approach to the ceiling of the scale in the later years.

It has already been mentioned that in the case of delinquents companionship may be one factor in the more rapid increase in the developmental age. Another factor fairly common with all adolescents may be the desire for new experiences, for opportunities of self-assertion, and a tendency to break with authority. The adolescent feels more strongly his allegiance to

³ Furfey, "A Revised Scale for Measuring Developmental Age in Boys," CD, II, 110.

his companions and attempts to emancipate himself from authoritarian figures. He asserts a more independent attitude and shifts for himself. Speaking of the older adolescent, Young⁴ has the following to say: "Frequently when children begin to earn money and to contribute to the family exchequer they feel not only an economic but a social independence and are inclined to control their parents or to become emancipated from their control." They no longer wish to be told what to do, but spontaneously associate with a group wherein they can satisfy their basic needs and desires and provide opportunities for new experiences and adventure. While these considerations may help to explain the acceleration in the developmental age of the adolescent, they may have a more significant bearing on the delinquent, for the homes of delinquents are often inadequate to direct and channel these tendencies properly.

When we compare the mean scores on the Furley scale for his group of unselected boys at specified ages, with those for the delinquent boys, again one sees that the delinquents are more matured in their interests at each age level, except at the sixteen year level. The term age group as used in the present

4 Pauline V. Young, Social Treatment in Probation and Delinquency, Treatise and Casebook for Court Workers, Probation Officers, and other Child Welfare Workers, New York: McGraw Hill Book Company, 1952, 108.

TABLE III
MEAN DA SCORES AND STANDARD DEVIATIONS OF CA GROUPS

Age Group	N	Mean DA Score	Standard Deviation
12	10	123.70	21.8
13	15	133.66	21.6
14	16	149.75	14
15	16	158.12	10.2
16	8	163.87	13.7

study has the same limits which Furfey used, i.e., the "age 12" refers to those who have reached their twelfth birthday but who have not yet come to their thirteenth birthday.

The comparison of the mean scores in Table IV (p. 33) is quite revealing. The writer wishes to point out, however, that possible social changes during the years which elapsed between the time of the two studies may account in part for the scores of the delinquent group which are progressively higher than those for the unselected group. A study not yet completed seems to show a trend for 1952 scores on an unselected sample, to be somewhat higher than the original Furfey norms. However, at the twelve, fourteen, and sixteen CA levels the delinquent boys in the present study still rate above these newer

TABLE IV

MEAN DA SCORES BY AGES OF 65 DELINQUENT BOYS COMPARED WITH
SCORES OF CORRESPONDING AGE GROUPS OF FURFEY'S
STANDARDIZING POPULATION

Delinquent Group			Furfey's Unselected Group ⁵		
CA	N	Mean Score	CA	N	Mean Score
12	10	123.70	12	127	108.40
13	15	133.66	13	99	122.90
14	16	149.75	14	144	138.20
15	16	158.12	15	105	152.27
16	8	163.87	16	79	164.27

tentative findings.

The mean DA scores on the Sub-tests for the separate chronological age groups are presented in Table V (p. 34). One finds a rather consistent pattern of developmental maturation with increasing chronological age. There is apparently no one phase of interests which is favored by the physical development of the boy much more than another.

The expression of preferences shows a rather consistent growth as the CA increases. The table indicates a fairly uniform

⁵ Furfey's standardizing group actually included ages from eight to eighteen.

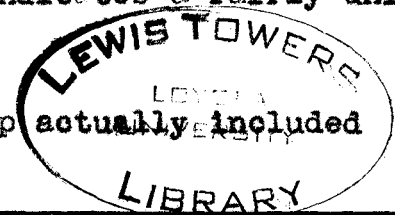


TABLE V
MEAN SCORES ON DA SUB-TESTS⁶ FOR CHRONOLOGICAL AGE GROUPS

Age Group	Sub-Tests					
	1	2	3	4	5	6
	(52)	(24)	(27)	(40)	(26)	(27)
12	34.8	12.8	15.5	27.4	16.2	17.0
13	38.5	12.9	17.1	30.4	17.7	19.0
14	44.5	14.5	19.1	29.4	20.6	21.6
15	45.4	15.3	20.0	34.8	20.6	21.8
16	47.1	14.5	23.2	34.5	21.2	23.2

growth in the pattern of development.

In terms of intelligence the present experimental group varied only slightly from a theoretical normal distribution. (See Appendix III). The mean IQ of the group was 96.7, the median score was 95. In our group there is a slight preponderance below 100. However, since many of these boys were handicapped readers, it is probable that the Stanford-Binet scores do

⁶ The highest possible score on each sub-test is indicated in parentheses at the top of respective columns. Cf. p. 19 for the areas covered by the several sub-tests.

not in every case represent their full intellectual capacity.

Much has been written on the intelligence of the delinquent. Owen⁷ surveyed 43 published reports and found 21 which lent themselves to statistical analysis. While the instrument used in most of these studies was the old Stanford-Binet, data based on other instruments were also incorporated into her summary. The twenty-one groups included in her statistical calculation represented a total population of 5925. Of these, 1241 (21 per cent) were reported as having IQ scores between 20 and 70. Why they were institutionalized as delinquents rather than mental defectives is not clear. Excluding this group but including 1434 with borderline intelligence would bring the average IQ of 82, reported by Owen for the whole group, to an average of about 88. In view of the large number of borderline cases retained in this latter calculation, the discrepancy between Owen's figures and those of the present study is readily understandable.

The difference in the mean scores may be further explained by the policy at Archbishop Hanna Center for Boys which is, in general, not to accept boys with intelligence quotients below eighty. Exceptions to this are occasionally made. If a

⁷ Mary Bess Owen, "Intelligence of the Institutionalized Juvenile Delinquent," Journal of Juvenile Research, XXI, Oct. 1937, 199-205.

slow lad would seem to be a good risk for rehabilitation, or if his delinquency has been minor so that he needs protection and security until the home or some other agency can provide for him, he may be admitted. Generally, when considering an application for a boy with an intelligence quotient lower than 80, the Intake Committee recommends that he be placed in an institution prepared to meet the needs of the mentally retarded.

After presenting in the foregoing pages the group scores for the several measures involved in this study, it remains to report the correlation of these several measures with the DA. Furfey was unable to obtain mental test data for most of the subjects used in standardizing the revised scale. However, he had available IQ scores from a paper-and-pencil test for 35 of the boys in the fourteen CA group. For these he reported a coefficient of correlation of $-.12$ between DA and IQ. For 66 boys in his group between the ages of twelve and sixteen, holding CA constant, the correlation between DA and IQ was reported as $-.08$. In the present study, since Stanford-Binet scores were secured for the entire population, it was possible to derive coefficients of correlation of developmental age with CA, MA, IQ, and IQ (with CA constant). These findings are presented in Table VI (p. 37). While all these correlations are positive, the trend is in general agreement with Furfey's conclusions. The influence of IQ on DA is relatively insignificant.

The MA assumes significance since r is approximately six times its PE. The higher correlation of DA with CA is consistent with Furfey's coefficient of reliability, which was .82. It should be noted that this latter figure was derived from a total population of 953 with a CA range from eight to eighteen years.

TABLE VI

COEFFICIENTS OF CORRELATION OF DA WITH CA, MA, IQ, AND WITH IQ (AGE CONSTANT)

Age Range	N		r	PE
12 - 16	65	DA with CA	.615	.051
		DA with MA	.406	.069
		DA with IQ	.251	.078
		DA with IQ (age constant)	.215	.079

In the earlier part of this study the CA group was used as the basis for comparison, and DA scores, etc., were presented in relation to respective CA groups. In what follows, this procedure is reversed. The basic grouping is in terms of DA, and the other measures are presented for the respective DA groups. This presentation appearing in Tables VII (p. 38), and VIII (p. 39), tends to confirm the findings derived by correlation. It will be noted that the highest mental age, seventeen

years six months, is located at the fourteen developmental age level; while the lowest mental age, nine years six months, is located at the twelve developmental age level.

TABLE VII

RANGE OF AGE SCORES (IN MONTHS) AND OF IQ FOR
SEPARATE DEVELOPMENTAL AGE GROUPS

DA Group	N	CA	DA	MA	IQ
8	1	160	107	129	81
9	1	146	111	135	92
12	5	144 - 178	145 - 155	114 - 197	79 - 124
13	6	149 - 175	156 - 164	124 - 181	78 - 107
14	13	155 - 197	169 - 179	131 - 210	78 - 127
15	17	144 - 197	181 - 190	127 - 201	78 - 130
16	16	158 - 203	192 - 203	146 - 202	82 - 116
17	6	172 - 193	204 - 211	161 - 204	91 - 113

In general, the younger boys have a lower mean DA score than their CA score. On the other hand with the older ones the DA score tends to increase by consistently greater proportions and to exceed the CA. The two boys that have a developmental age score of eight and nine years, though both over twelve years in CA, deviate sharply in their DA scores.

TABLE VIII

MEAN SCORES (IN MONTHS) FOR DEVELOPMENTAL AGE GROUPS

DA Groups	N	Means			
		CA	DA	MA	IQ
8	1	160	107	129	81
9	1	146	111	135	92
12	5	157	150	156	99.6
13	6	158	159	139	88.1
14	13	173	175	163	97.3
15	17	172	185	159	96.1
16	16	180	197	172	97.8
17	6	187	207	183	103.3

Table VIII and Figure 2 using DA grouping show an interesting trend. The CA curve has been smoothed because of the small size of the experimental group. The small circles indicate the actual CA measure, and the x shows the DA measures in months for the sample. It is interesting to note that the lines cross at approximately thirteen and one-half years, which is considered close to the onset of adolescence for boys. But because the sample is so small no generalization can be made. It may be a coincidence. However, such trends would reflect

growth of experiences and tend to serve as a basis for predicting the activities and interests of adolescent groups for different ages.

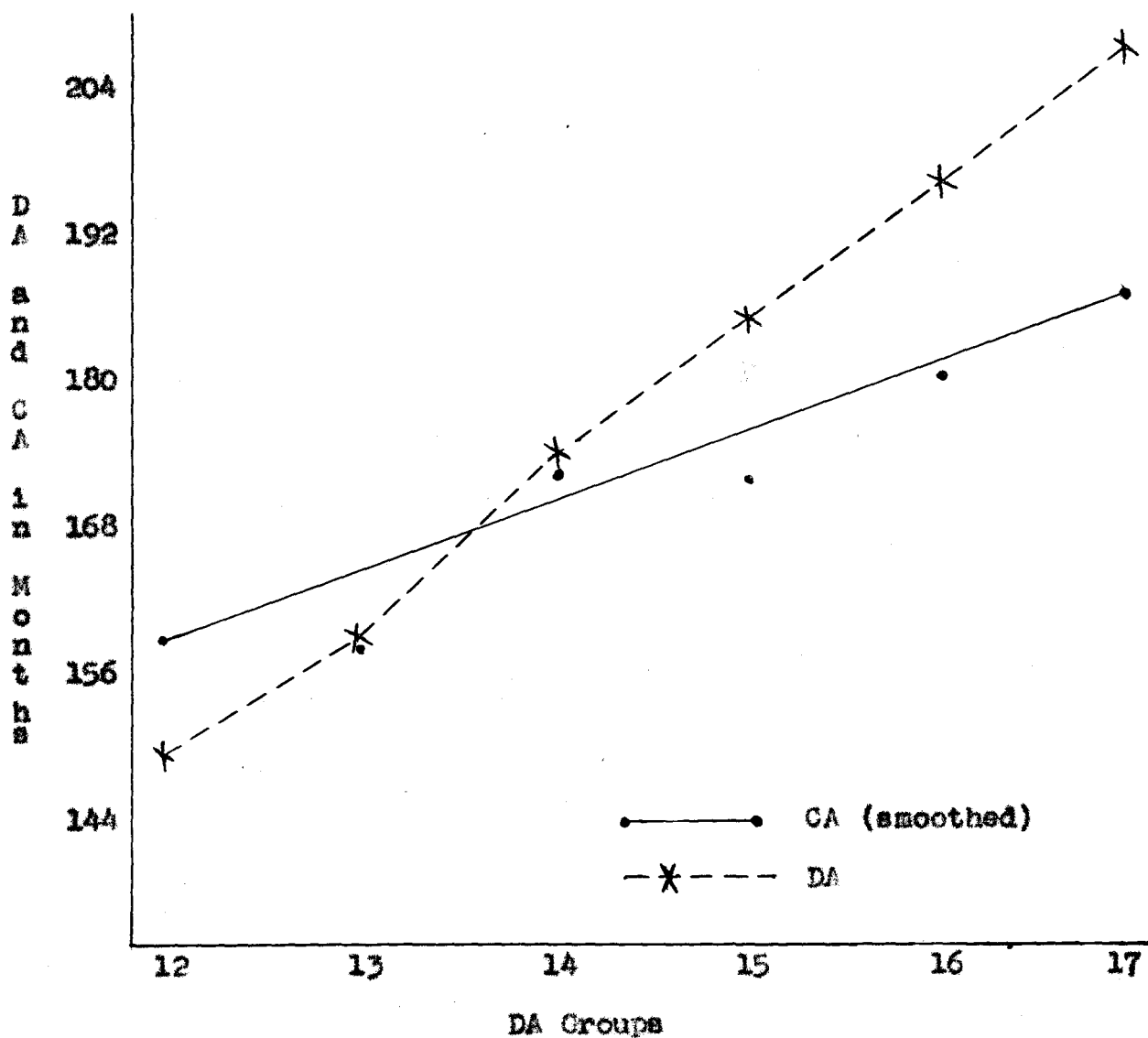


Figure 2

MEAN DA AND CA (IN MONTHS) FOR EACH DA GROUP

CHAPTER V

SUMMARY AND CONCLUSIONS

The present study originated from the desire to know more about the maturity of interests of delinquent boys. The present investigation made at Archbishop Hanna Center for Boys included a group of sixty-five delinquent boys who are wards of the court, between the ages of twelve and sixteen years. Although most of these delinquents might be regarded as emotionally, mentally, and spiritually ill, they present no marked physical disorders.

The instruments of measurement used were the Revised Stanford-Binet Scale and the Furley Test for Developmental Age, Form 3-B. The raw scores on the developmental age scale were converted into a developmental age by use of Furley's developmental age equivalents of specified scores.

The results of these 65 Stanford-Binet tests showed a range of intelligence quotients from 78 to 130, with a mean of 96.7. Since an IQ score of 90 is commonly regarded as the lower limit of the normal range, 45 boys, 69 per cent of the sample, rated as normal or above. The average mental age for the group was thirteen years five months.

Delinquent boys appear to be more matured in their interests than the non-delinquent, according to the present findings. Not only were the DA scores for these delinquent boys higher than the scores for the corresponding ages of Furfey's unselected group, except at the sixteen year level, but also at each age the mean DA of the delinquent group surpassed the mean CA except at the sixteenth year. The mean DA, 181 months with a standard deviation of 20.5, exceeded the mean CA by eight months and the mean MA by twenty months. Three reasons may account for their higher DA scores, namely, (1) companions, (2) emancipation from authority, (3) and social changes in the past twenty years.

The correlations between the DA and the other measures were all positive and in general corresponded with Furfey's findings. The DA and CA yielded a correlation of .615; the DA with MA showed a coefficient of .406; and for the DA with IQ r was .251. A partial correlation between the DA and IQ (age constant) yielded a .215 correlation. Although these correlations are not high, except in the case of the .615 between the DA and CA, all significant relationship is not lost.

The general conclusions that may be drawn from this study are the following.

The delinquent boys in this sample have reached a greater degree of maturation in interests than the corresponding

age groups in Furfey's unselected standardizing population.

The kind of maturity measured by the developmental age scale is definitely something other than intellectual since there is a notable increase in DA scores above the age of twelve, despite the disparity of IQ and MA.

There is a notable gain in mean DA scores for the delinquent boys and these scores tend to increase by greater proportions until both groups converge toward the top of the scale.

Although the DA exceeds the CA in constantly increasing measures for boys of thirteen and over, there is no appreciable increase in DA scores after the sixteenth year.

Chronological age is in general a more significant index of the degree of maturity of interests than is either mental age or intelligence quotient.

It would appear that the young delinquent having identified himself with older leaders develops a pattern not only of attitudes but of interests consistent with the self-concept resulting from this identification.

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APPENDIX I

ITEMIZED SCORES AND DATA OF 65 DELINQUENT BOYS USED IN THE PRESENT STUDY

Sub- ject	IQ	CA	MA	DA	Sub-Test Scores						Total
					1	2	3	4	5	6	
T. Cu	101	16-0	15-2	17-7	50	20	26	38	25	27	186
G. Mz	108	15-6	15-10	17-6	51	16	25	39	23	26	180
M. Hm	102	16-6	15-4	17-2	50	18	26	33	23	25	175
M. Hy	105	14-4	14-7	17-0	45	20	22	38	25	23	173
G. Br	91	15-6	13-5	17-0	50	16	24	38	22	23	173
H. Zh	113	16-1	17-0	17-0	47	16	27	32	24	27	173
R. Ce	93	14-4	13-0	16-11	51	18	21	37	23	22	172
J. Mn	82	14-9	11-8	16-9	49	16	21	36	24	24	170
W. Wal	92	13-11	12-6	16-8	45	15	21	39	23	25	168
A. Ht	99	16-11	14-11	16-8	48	16	25	34	23	22	168
W. Es	96	15-5	14-1	16-7	49	18	22	34	20	26	167
J. Ra	107	16-7	16-1	16-5	44	19	23	36	23	20	165
E. Qo	86	14-8	12-2	16-4	45	17	21	39	20	22	164
D. Pn	113	15-2	16-4	16-4	42	18	24	33	22	24	163
J. Rz	96	15-8	14-2	16-4	50	16	18	37	20	22	163
J. Ree	115	14-4	16-0	16-3	48	15	20	33	22	24	162

Appendix I (continued)

Sub- ject					Sub-Test Scores						
	IQ	CA	MA	DA	1	2	3	4	5	6	Total
J. T.	98	14-7	13-10	16-3	47	12	23	32	22	26	162
J. Wms	85	15-0	12-3	16-3	43	11	26	38	23	21	162
J. Hn	116	15-3	16-10	16-3	44	18	22	32	21	25	162
G. NN	106	15-3	15-5	16-2	47	20	19	32	22	21	161
E. Cio	94	13-2	12-4	16-0	44	16	21	34	22	22	159
V. Ct	87	15-6	12-9	16-0	48	13	18	37	24	19	159
C. O.	78	14-8	11-0	15-10	47	11	24	33	20	22	157
B. Sd	90	15-4	13-2	15-10	45	17	17	37	21	19	156
T. W.	114	13-9	15-5	15-10	34	20	22	33	22	25	156
B. Cs	83	15-3	12-1	15-8	46	10	20	37	21	20	154
G. G1	95	14-4	13-5	15-7	46	16	14	30	22	25	153
F. Srr	105	13-1	13-9	15-6	48	13	20	29	22	20	152
C. H1	107	16-5	16-1	15-6	45	12	20	35	15	25	152
C. Dy	130	12-11	16-9	15-5	43	15	20	34	21	18	151
R. Mez	83	12-11	10-9	15-5	50	12	16	32	17	23	150
M. Len	105	14-2	14-6	15-5	49	14	23	24	19	21	150
R. Js	85	15-1	12-3	15-5	39	16	21	33	19	22	150
J. Re	106	12-0	12-9	15-4	47	9	17	31	25	20	149
T. Mel	97	15-4	14-2	15-3	45	19	15	31	18	20	148
R. Kr	84	16-0	12-8	15-3	50	7	17	35	19	20	148
M. Sd	112	13-4	14-10	15-1	46	9	19	30	21	21	146
R. R.	79	13-7	10-7	15-1	43	17	19	28	19	20	146

Appendix I (continued)

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Sub-Test Scores

Sub- ject	IQ	CA	MA	DA	1	2	3	4	5	6	Total
M. Kly	80	15-1	11-7	15-1	39	13	20	29	22	22	145
L. Cel	112	14-9	15-11	14-11	39	18	16	27	22	22	144
B. Gon	90	16-5	13-6	14-11	43	8	22	33	18	20	144
J. Kll	82	14-2	11-4	14-11	41	15	17	29	21	21	144
A. Tez	78	15-9	11-7	14-11	44	12	13	37	17	21	144
G. E.	85	14-10	12-2	14-11	40½	11	16	31	24	20½	143
N. Sth	93	15-6	13-8	14-11	45	12	17	33	16	20	143
H. Zhn	115	13-5	15-3	14-10	40	11	20	34	18	19	142
R. P.	81	13-7	10-11	14-7	35	15	17	34	17	21	139
R. Ro	114	14-11	16-3	14-5	42	7	18	29	17	23	136
T. Wl	98	12-11	12-8	14-4	33	12	17	33	18	22	135
K. Pry	96	13-8	12-10	14-2	36	15	21	30	12	19	133
B. Bos	94	13-8	12-8	14-1	38	13	14	35	20	11	131
P. Pr	127	14-1	17-6	14-1	40	17	15	25	17	17	131
W. M.	78	13-4	10-4	13-8	42	9	9	30	14	21	125
T. P.	83	12-5	10-4	13-4	43	9	12	25	13	19	121
R. Cin	107	14-7	15-1	13-4	39	17	17	11	17	20	121
G. Ryn	90	12-8	11-5	13-3	35	10	14	32	12	16	119
Jay S	90	13-3	11-10	13-1	37	12	14	23	14	17	117
W. W.	81	12-10	10-5	13-0	31	18	17	21	14	14	115
F. Brd	106	14-10	15-2	12-11	41	8	19	17	15	14	114
A. Tas	91	12-0	10-11	12-7	19	15	18	26	16	16	110

Appendix I (continued)

Sub-Test Scores

Sub- ject	IQ	CA	MA	DA	1	2	3	4	5	6	Total
W. Crk	124	13-4	16-5	12-7	29	9	19	18	16	19	110
J. DeM	79	12-0	9-6	12-3	27	13	18	23	15	12	108
J. Ser	98	13-1	12-10	12-1	35	13	13	17	14	13	105
J. Mch	92	12-2	11-3	9-3	20	15	6	17	11	10	79
M. W.	81	13-4	10-9	8-1	23	7	9	12	12	13	76

APPENDIX II

INDIVIDUAL RANKS OF 65 DELINQUENT BOYS FOR DA, CA, MA, AND IQ

Subject	DA	CA	MA	IQ		DA	CA	MA	IQ
T. Cu	1	7.5	17.5	24	J. Re	34	64	37.5	18.5
G. Mz	2	12.5	12	13	T. Mel	35.5	16.5	24.5	29
M. Hm	3	3	15	23	R. Kr	35.5	7.5	40	51
M. Hy	5	35.5	22	21	M. Sd	38	49.5	21	11.5
G. Br	5	12.5	31.5	40.5	R. R.	38	45.5	61	61.5
H. Zh	5	6	2	9.5	M. Kly	38	22.5	51.5	60
R. Ce	7	35.5	34	36.5	L. Cal	42.5	28.5	11	11.5
J. Mn	8	28.5	50	55.5	B. Gon	42.5	4.5	30	43.5
W. Wel	9.5	41	42	38.5	J. Kll	42.5	38.5	54	55.5
A. Nt	9.5	1	20	25	A. Tez	42.5	9	51.5	64
W. Es	11	15	26	31	C. E.	42.5	26.5	46.5	49
J. Re	12	2	8.5	15	N. Sth	42.5	12.5	29	36.5
E. Qo	14	30.5	46.5	47	H. Zhn	46	47	16	5.5
D. Pn	14	21	6	9.5	R. P.	47	45.5	57.5	58
J. Rz	14	10	24.5	31	R. Ro	48	25	7	7.5
J. Ree	17.5	35.5	10	5.5	T. Wl	49	57	40	27
J. T.	17.5	32.5	27	27	K. Pry	50	43.5	35.5	31
J. Wms	17.5	24	44.5	49	B. Bos	51.5	43.5	40	34.5
J. Hn	17.5	19	3	4	P. Pr	51.5	40	1	2
G. NN	20	19	13.5	18	W. M	53	49.5	63.5	64
E. Cio	21.5	53	43	34.5	T. P.	54.5	61	63.5	53
V. Ct	21.5	12.5	37.5	46	R. Cin	54.5	32.5	19	15
G. O	24	30.5	56	64	C. Ryn	56	60	53	43.5
B. Sd	24	16.5	33	43.5	Jay B	57	52	49	43.5
T. W.	24	42	13.5	7.5	W. W	58	59	62	58
B. Cs	26	19	48	53	F. Brd	59	26.5	17.5	18
G. G1	27	35.5	31.5	33	A. Tas	60.5	64	57.5	40.5
F. Srr	28.5	54.5	28	21	W. Crk	60.5	49.5	5	3
C. Hl	28.5	4.5	8.5	15	J. DeM	62	64	65	61.5
C. Dy	31.5	57	4	1	J. Ser	63	54.5	35.5	27
R. Mez	31.5	57	59.5	53	J. Mch	64	62	55	38.5
M. Len	31.5	38.5	23	21	M. W.	65	49.5	59.5	58
R. Js	31.5	22.5	44.5	49					

APPENDIX III

FREQUENCY DISTRIBUTION OF INTELLIGENCE QUOTIENTS IN CLASS INTERVALS

			99				
			98				
			98				
			98				
			97				
			96				
	87		96				
	86		96				
	85		95				
	85		94	108			
	85		94	107			
	84		93	107			
	83		93	107	116		
	83		92	106	115		
	83		92	106	115		
	82		91	106	114		
79	82		91	105	114		
79	81		90	105	113		
78	81		90	105	113		
78	81		90	102	112	127	
78	80		90	101	112	124	130

Totals	5	15	21	12	9	2	1
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APPROVAL SHEET

The thesis submitted by Sister Mary Grace, O.S.F. has been read and approved by three members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

January 20, 1953
Date

Charles T. Doyle, S.J.
Signature of Adviser